

A²
The complexity of a programmable device requires complex programming of each of its configurations which can be stored. Each stored configuration reprogramming can be accomplished "on the fly" by applying the stored configuration to the device.

Please replace the paragraph beginning at ~~page 3, line 12~~ with the following:

A³
A need exists, therefore, for a method for programming highly complex programmable devices, particularly for configuring I/O pins differently for each programmed device configuration. Furthermore, such a method must be much more user-friendly than currently available, enabling a user of normal skills to configure enormously complex programmable devices with multiple configurations.

Please replace the paragraph beginning at ~~page 4, line 2~~ with the following:

A⁴
Disclosed herein is a method for programming highly complex programmable devices, and particularly for configuring input/output (I/O) pins to accommodate different programmed device configurations. The method is much more user-friendly than currently available, enabling a user of normal skills to configure enormously complex programmable devices with multiple configurations.

Please replace the paragraph beginning at ~~page 8, line 11~~ with the following:

A⁵
The particular embodiment of the present invention discussed here employs a portion of a graphical user interface (GUI) to facilitate the configuration of I/O pins in a microcontroller software design tool. Note that a microcontroller is one of many different possible configurations for a programmable device and for some other programmable logic devices. Other configurations and, indeed, other types of programmable devices could benefit equally from use of the concepts employed in this embodiment. It should also be noted that the GUI employed in this embodiment

A⁵ is one developed specifically for configuring programmable microcontrollers, but other GUIs could also incorporate this embodiment of the present invention.

Please replace the paragraph beginning at ~~page 9, line 16~~ with the following:

A⁶ Important to a concept involving a graphical user interface, display device 105 is also connected to the bus. Similarly connected are alpha-numeric input device 106, cursor control 107, and signal I/O device 108. Signal I/O device 108 could be implemented as a serial connection, USB, an infrared transceiver or an RF transceiver. The configuration of the devices to which this embodiment of the present invention applies may vary, depending on the specific tasks undertaken. In every case, however, display device 105 and cursor control 107 would be implemented in one form or other. It is highly probable that some implementation of interconnect/programming device 111 would also be connected to computer bus 110, whether directly by bus link 125 or indirectly by signal communication 108 and communication link 120. The purpose of device 111 would be to actually implement the configurations developed using embodiments of the present invention. It is also possible that interconnect/programming device 111 could be a part of the circuitry suite permanently connected to the environment of the targeted device.

Please replace the paragraph beginning at ~~page 13, line 8~~ with the following:

A⁷ Figures 3, 4 and 5 are detailed illustrations of parts of the overall display shown in Figure 2. The display shown in Figure 2 is specific to the portions of device programming that would involve I/O pin configuration. Figure 3 is an illustration of pin-out window 207 which includes pin diagram 300 and legend 211 which could be a color-code assignment to pin type. Legend 211 might also be implemented as a popup window. Pin diagram 300 is intended to give the user a graphic illustration of the device being programmed and, in this pin configuration oriented display, it is the I/O pins that occupy user's attention. Note that pin diagram 300 is illustrative of a DIP (dual inline

A⁷
pin) configured IC package. This particular illustration is just that, an illustration. The graphic is not intended to be used solely with DIP-configured ICs and is expected to be adaptable to many other package configurations. The DIP graphic, however, is well suited to presenting the user the necessary information and to accept the necessary user input to properly configure the I/O pins of a programmable device.

Please replace the paragraph beginning at ~~page 17, line 1~~ with the following:

A⁸
An alternative drive type could be selected from the drop-down list. If port type had been selected in the column headed by the word "Select", then a drop down button could appear in that window and, when it was picked, a drop-down list similar to window 401 could appear, offering the port type selection set. Pin parameter table 206 is presented in the user parameter table of the device configuration display illustrated in Figure 2. It offers an alternative method of device pin configuration and characterization. Note, again, that the labels and graphical content of the illustrated displays are intended for illustration and are not intended to limit the concepts presented in this discussion of this embodiment of the present invention to any particular fixed status. The concept here is the use of graphics, pop-up windows and drop-down lists in a GUI to configure the functionality of pins on a programmable logical device. 15. The example used in this discussion of embodiments of the present invention is a programmable microcontroller.

Please replace the paragraph beginning at ~~page 18, line 19~~ with the following:

A⁹
It is also important to note that, whether using the pin-out view or the pin configuration table, when a pin is selected, a pop-up window can appear that, as discussed above, presents options to the user. The selection set option first appears, as in window 400 in Figure 4, showing pin and port number and offering the selection of either pin type or drive type. Selecting either option can cause the appearance of the selection set associated with the option selected. A port type selection set such